

ECCP - Third Party Review



Who are we?





INTRODUCTION

- The Cannery is a new development area in the North of Davis.
- East Covell Boulevard is one of the biggest arterial roads in the City.
- *Mobycon is asked to do a third party review of the traffic measures needed for a safe and accessible Cannery development.*





INSPIRATION

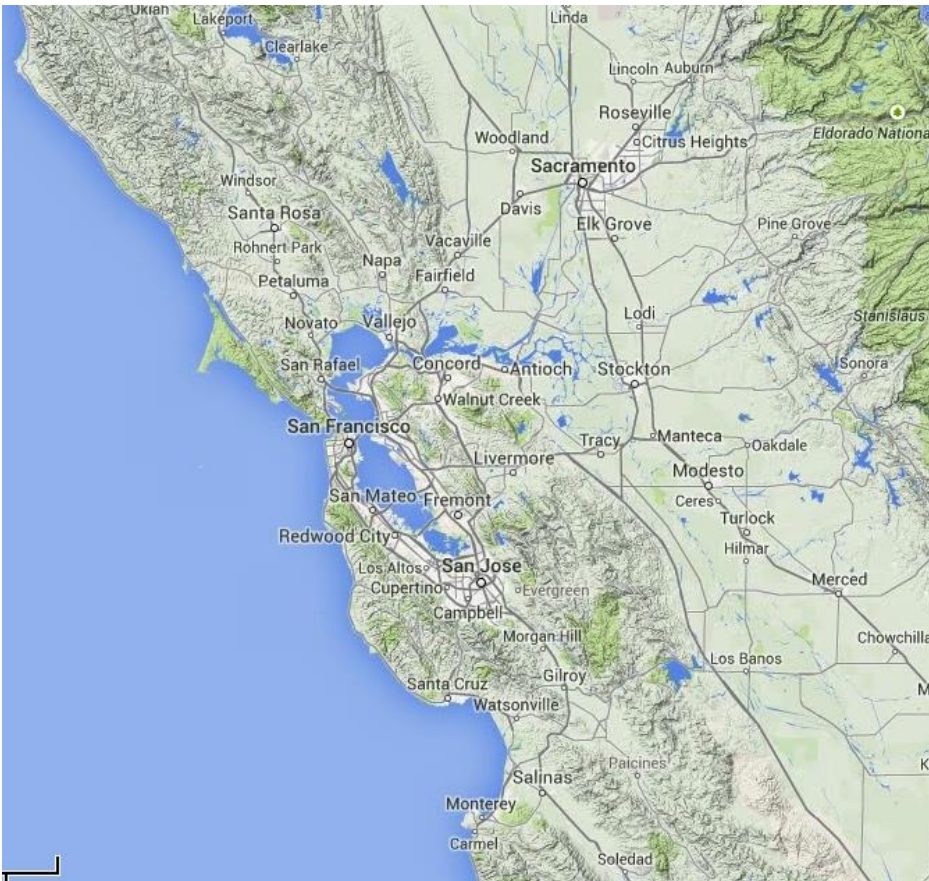
Cycling in Holland



Cycling in Holland



Bay Area - metro



7,44 million inh

6984 sq mls

1,065 inh/sq mls

Netherlands



16,8 million inh

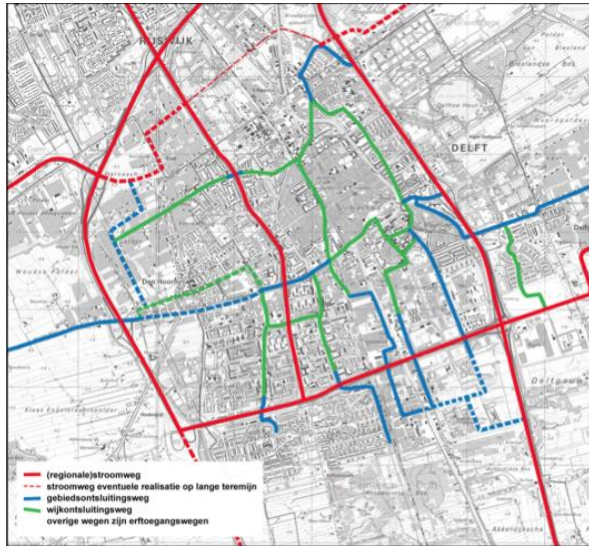
16039 sq mls

1,052 inh / sq mls

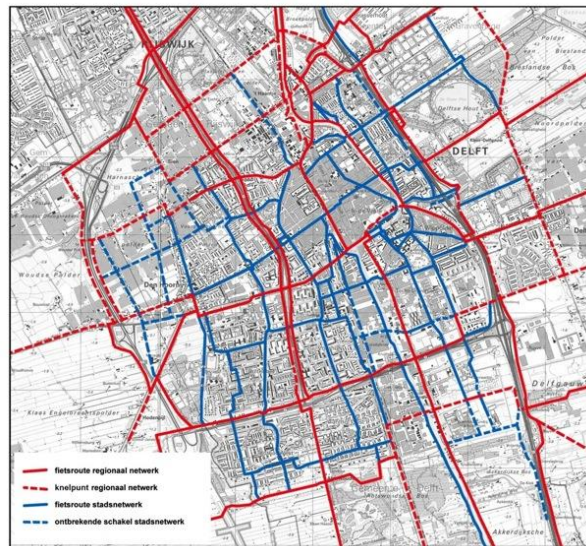
Cycling in Holland



Car and cycle infrastructure at the network level



Car network of Delft, Netherlands



Bicycle network of Delft, Netherlands



Car and cycle infrastructure at the network level

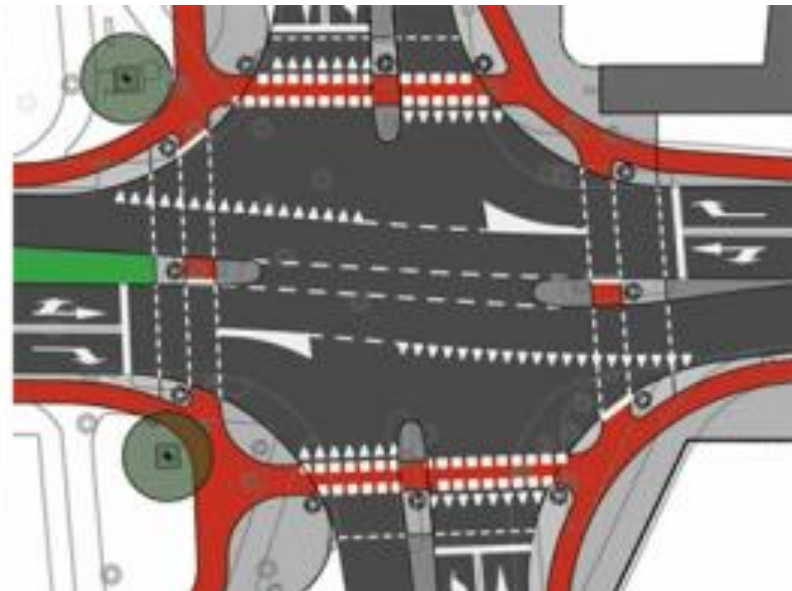
- Reduce the car speed when mixing, separating the cars and cyclists at higher speeds

rural area	<p>highway</p>  <p>(80 mph)</p>  <p>no cycle path</p>	<p>connector road</p>  <p>(50 mph)</p>  <p>bike lane or adjacent path</p>	<p>rural road</p>  <p>(37 mph)</p>  <p>mixed use</p>
built up area	<p>urban highway</p>  <p>(62 mph / 50 mph)</p>   <p>no cycle path</p>	<p>arterial road</p>  <p>(31 mph)</p>  <p>bike lane or adjacent path</p>	<p>neighbourhood street</p>  <p>(18 mph)</p>  <p>mixed use</p>

Car and cycle infrastructure at the street level



Car and cycle infrastructure at the street level



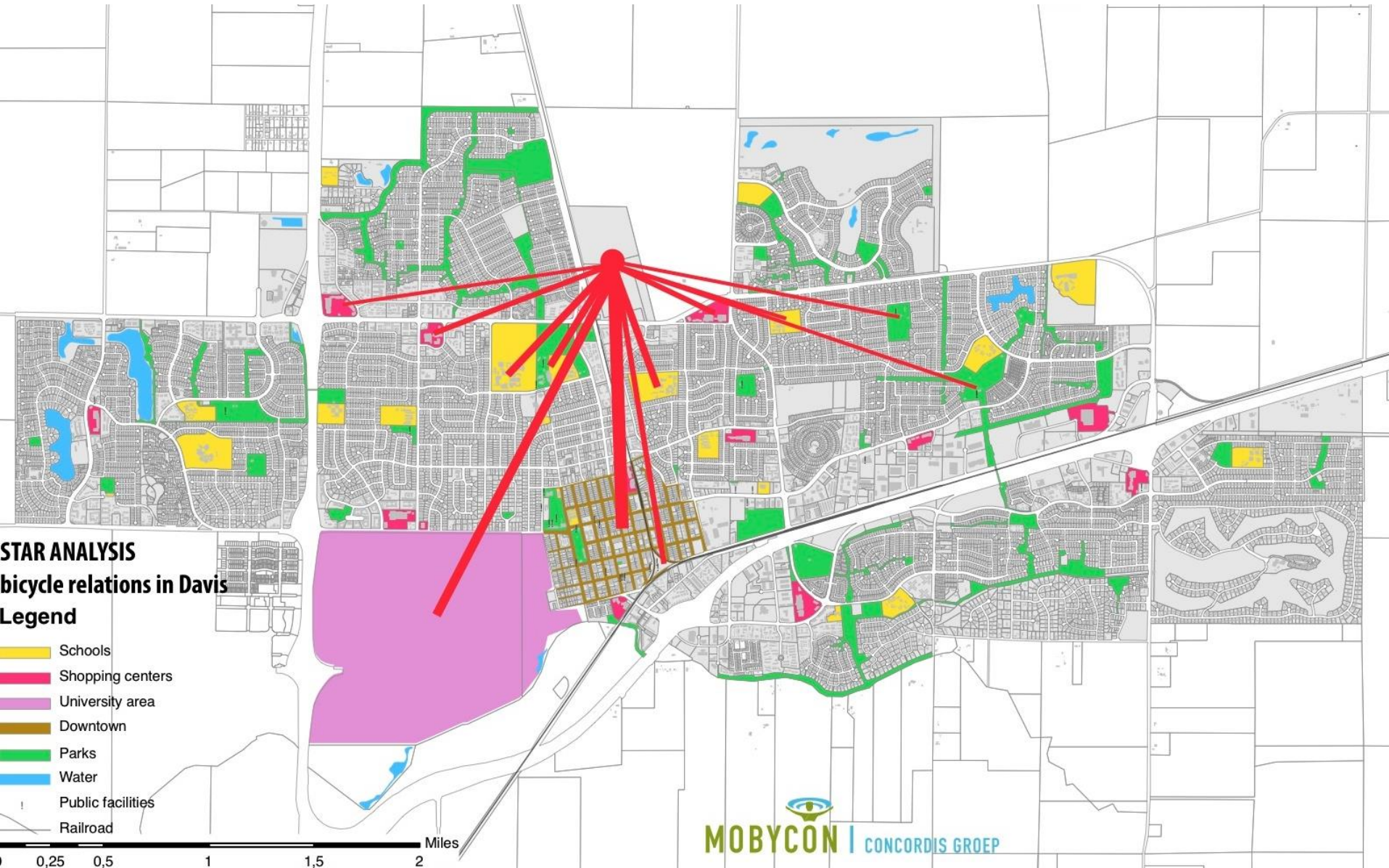
Car and cycle infrastructure at the street level





ANALYSIS

Bicycle accessibility

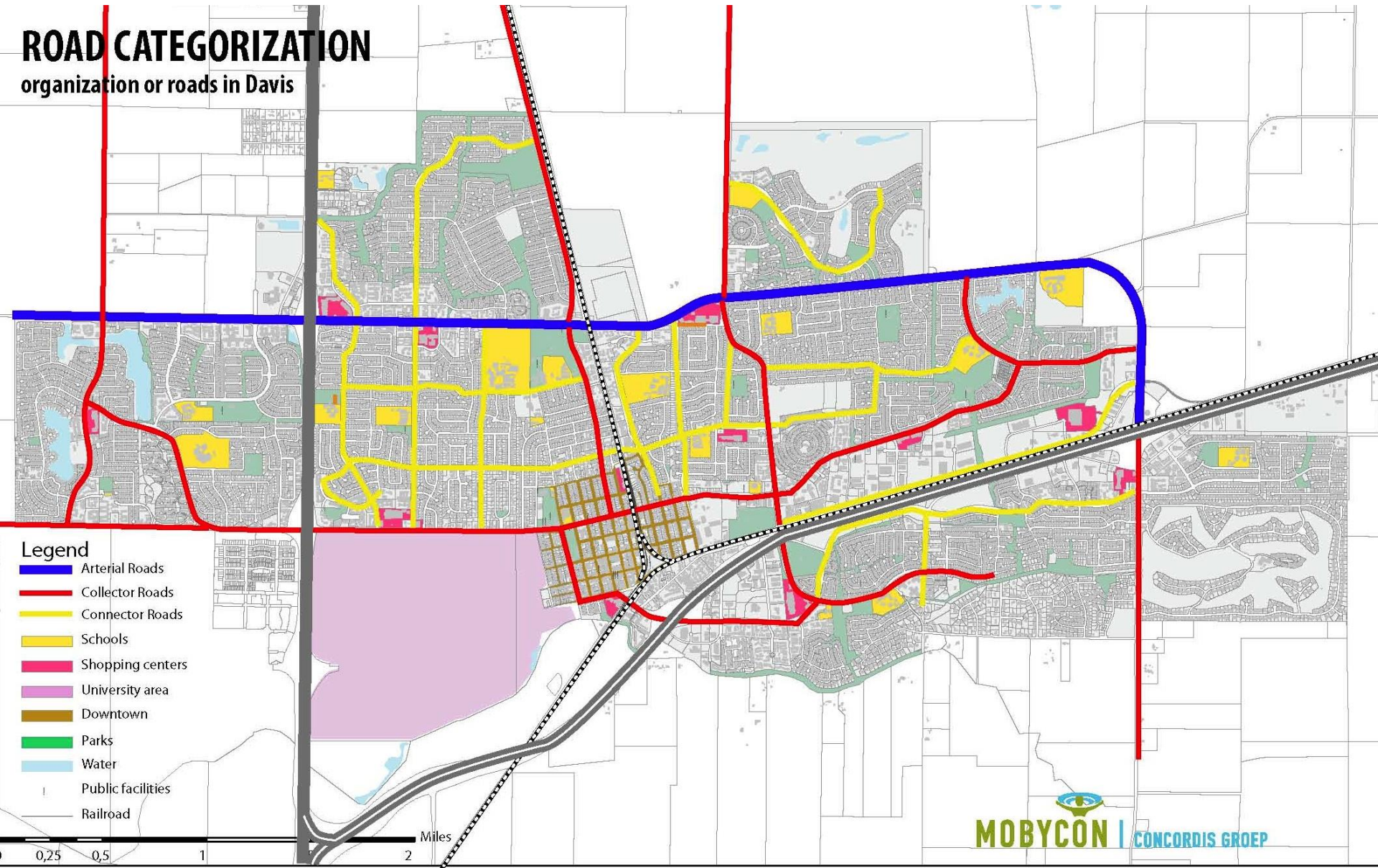


Current conditions

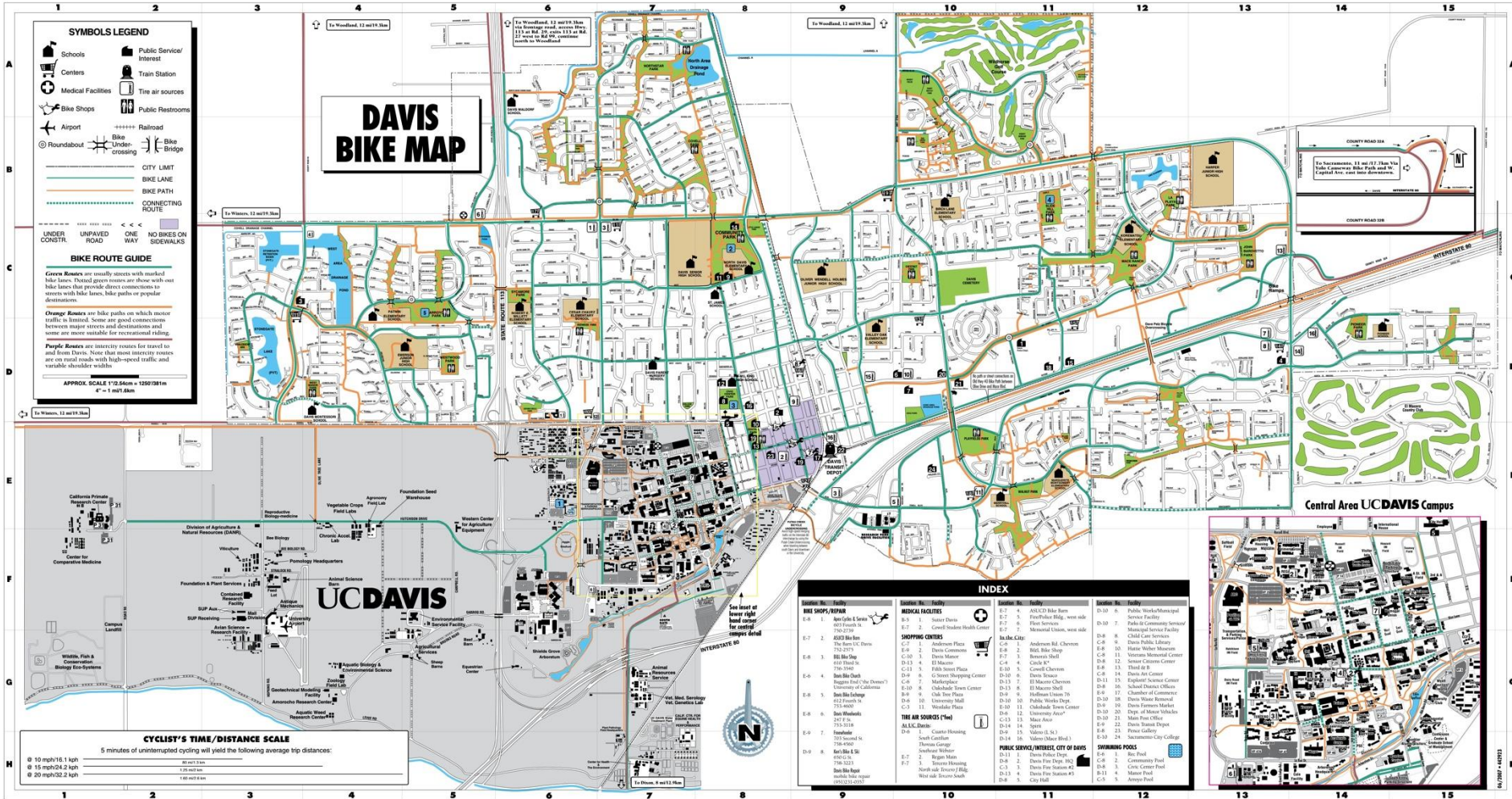


ROAD CATEGORIZATION

organization or roads in Davis



Current conditions



Good cycle infrastructure



- 5 basic conditions for good cycle infrastructure:

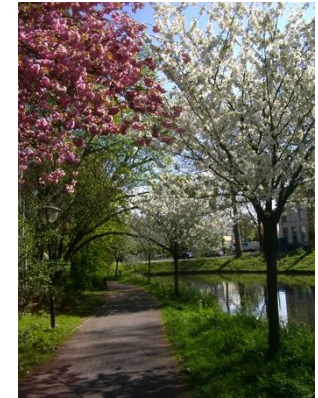
- Coherence



- Safety (1)



- Attractiveness



- Directness



- Safety (2)



- Comfort



Target groups



- School children
 1. Safety
 2. Directness
 3. Attractiveness

- Commuters, students
 1. Directness
 2. Safety
 3. Attractiveness, Comfort,

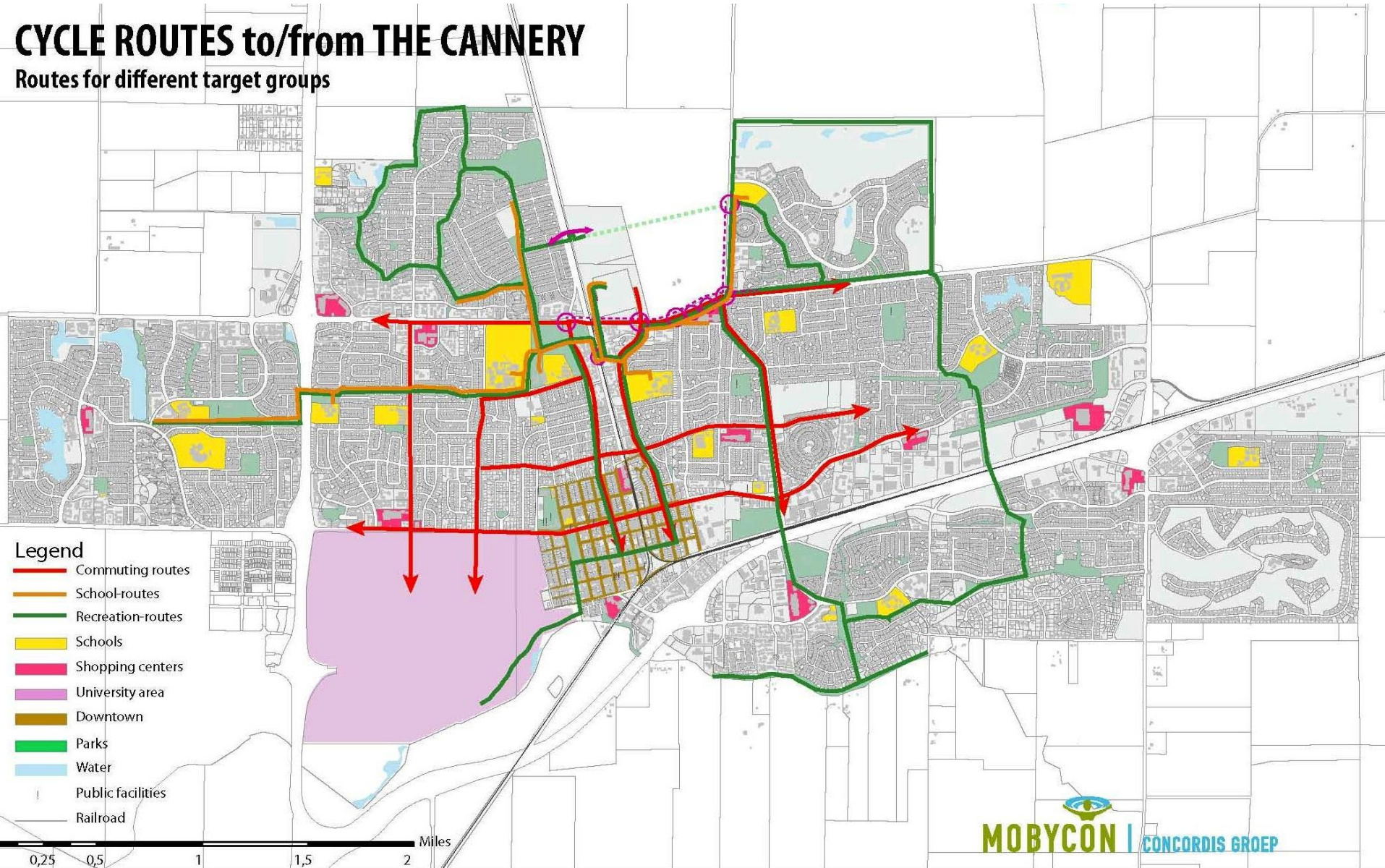


- Recreational / Leisure cyclists
 1. Attractiveness, Comfort
 2. Safety
 3. Directness



CYCLE ROUTES to/from THE CANNERY

Routes for different target groups





NOW

Short-term design solutions

Design solutions: NOW



Design solutions - NOW



- 1 - H street tunnel
- 2 - Access to H street tunnel
- 3 - Safe intersection E.covell Blvd/J street
- 4 - Two way cycle path on the south side
- 5 - Safe intesection e.covell Blvd/L street
- 6 - Oak trees plaza drive way

0 0,5 1 mile



Grade-separated crossing to H Street tunnel



- Safe, conflict free route south is needed
- Route along the railway track to H Street Tunnel best option.
- Option with path running up to E. Covell Blvd. southside is too indirect
- Social safety under E. Covell Blvd. bridge important: clean it up with art!



Grade-separated crossing to H Street tunnel



- H Street tunnel is narrow and dark, entries and exits have 'sharp corners'.

- Widening the west side entrance is a necessity: grade replaced with wall



To prevent 'corner cutting' a small circle can be added: speeds are slower, conflicts are erased.

East Covell Blvd. and J St. intersection



Problem:

- Three way intersection becomes four way intersection, due to main exit of the Cannery
- Crossing of cyclists and pedestrians problematic in existing situation.
- J-Street is an important route south for cyclists.

East Covell Blvd. and J St. intersection



Minimal:

- 'Dutch' type of intersection
- Cyclists pedestrians cross side streets perpendicular, with separate cycle light
- Buffer location cyclists and pedestrians is protected by shoulder
- Left turn in two safe steps
- No free right turn possible (potential conflicts)

East Covell Blvd. and J St. intersection



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East Covell Blvd. and J St. intersection



Ideally:

- Turbo-roundabout
- Cyclists and pedestrians cross with priority
- Slow & continuous: safer
- Users more alert: safer
- Same amount of space as intersection



East Covell Blvd. and J St. intersection



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East Covell Bd. two-way cycle track (South)



- Existing shared path leads to unclear situations at intersections and (with rising amount of cyclists) conflicts between pedestrians and cyclists.



- Existing shared path should become a genuine two-way cycle path.
- Sidewalk added where needed. On less busy segments they walk on the cycle path
- Clear distinction between modes at intersections

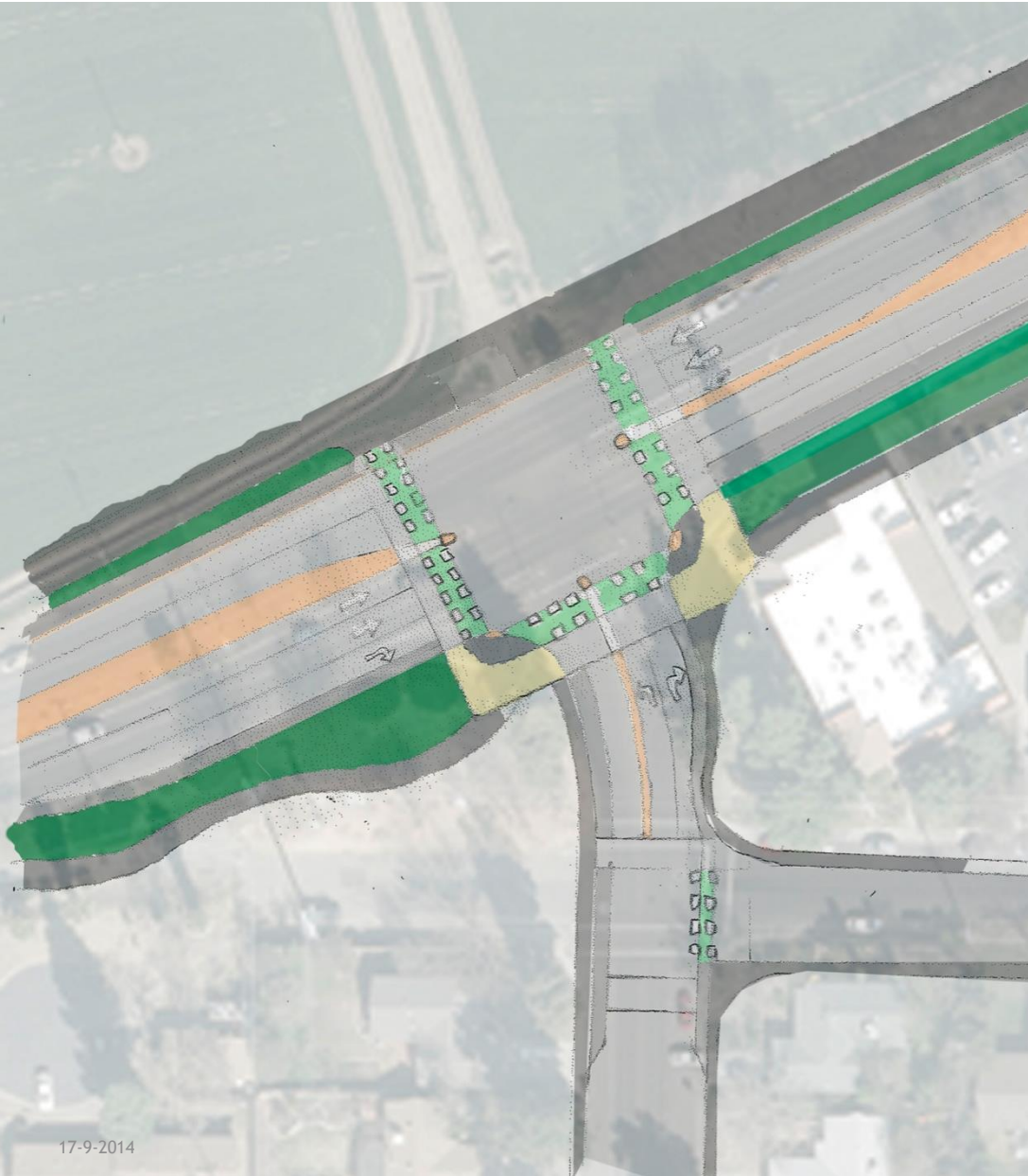
East Covell Bd. and L St. intersection



Problem:

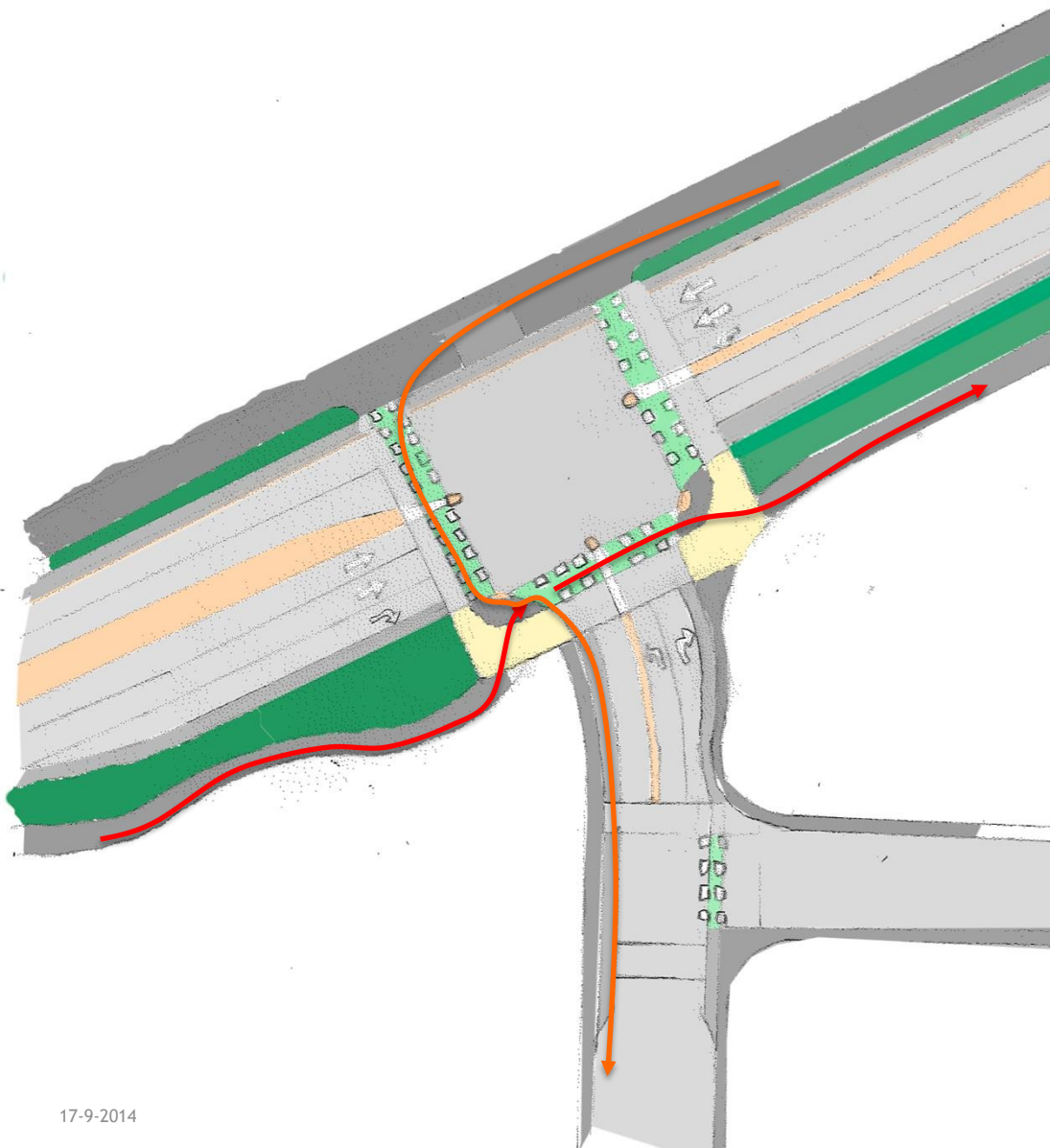
- Cyclist have to cross L Street while riding the two-way bike path (existing shared path).

East Covell Bd. and L St. intersection



- 'Dutch' type of intersection, without lights
- Cyclists pedestrians cross side streets perpendicular, with priority.
- Left turn in two safe steps
- No free right turn possible (potential conflicts)
- If car traffic analysis demands it, placing lights is possible with this layout

East Covell Bd. and L St. intersection



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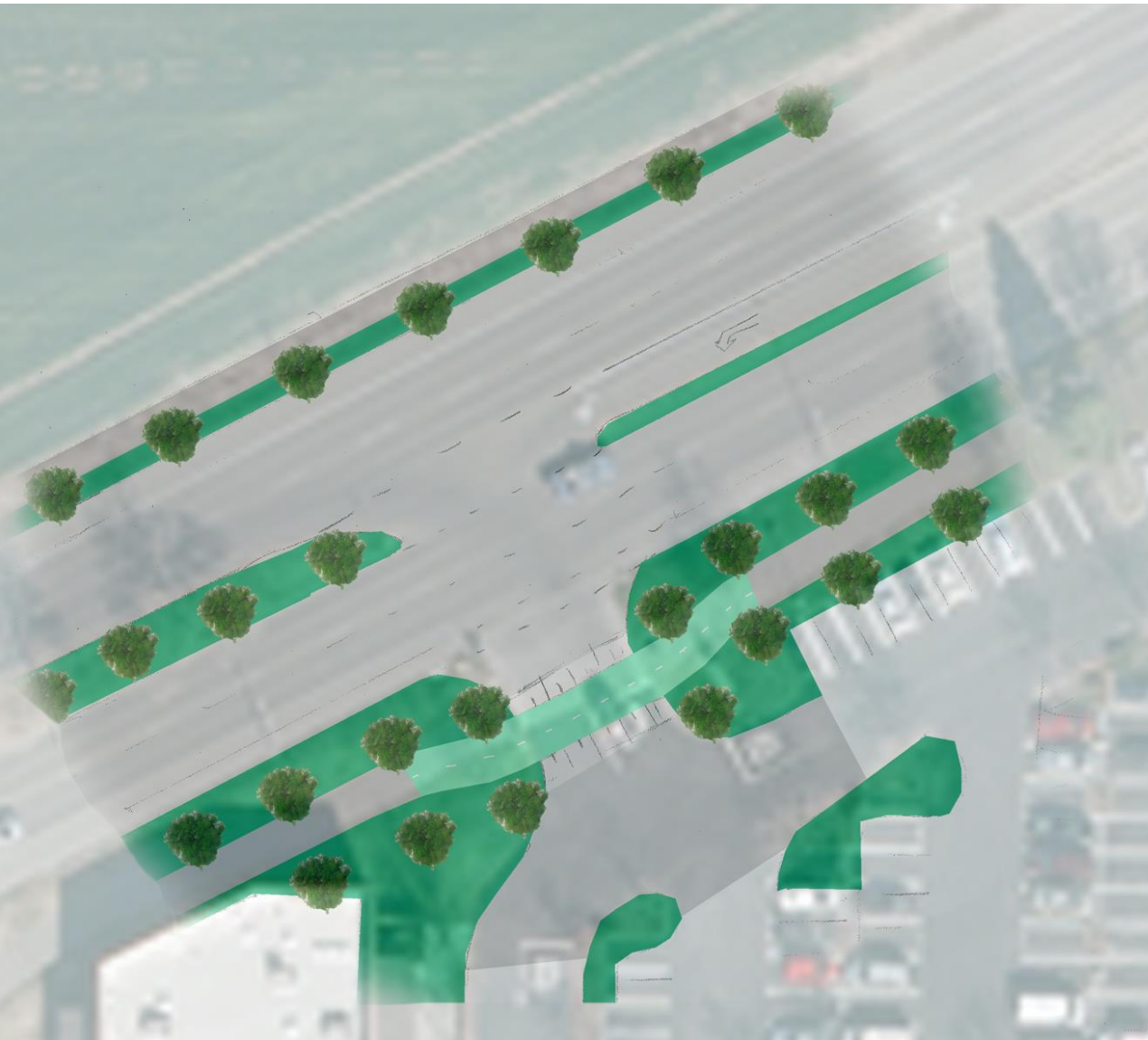
Oak Tree Plaza driveway access points



Problem:

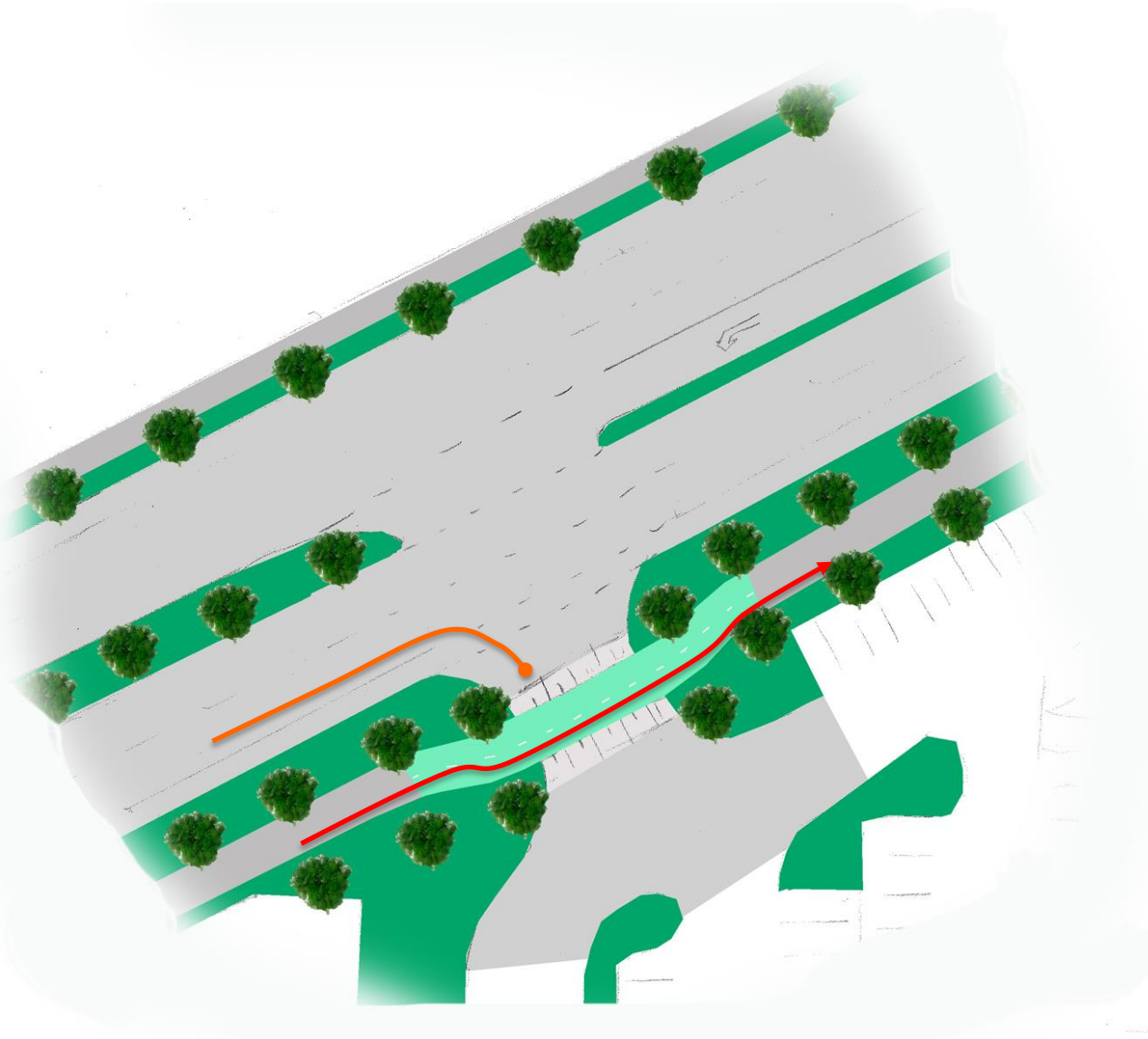
- Traffic to and from Oak Tree Plaza has to cross the two-way bike route.

Oak Tree Plaza driveway access points



- Cyclists (and pedestrians) continue on a raised platform
- Car traffic has to yield to this ongoing cycle traffic
- Car traffic can buffer between driving lane and cycle path

Oak Tree Plaza driveway access points



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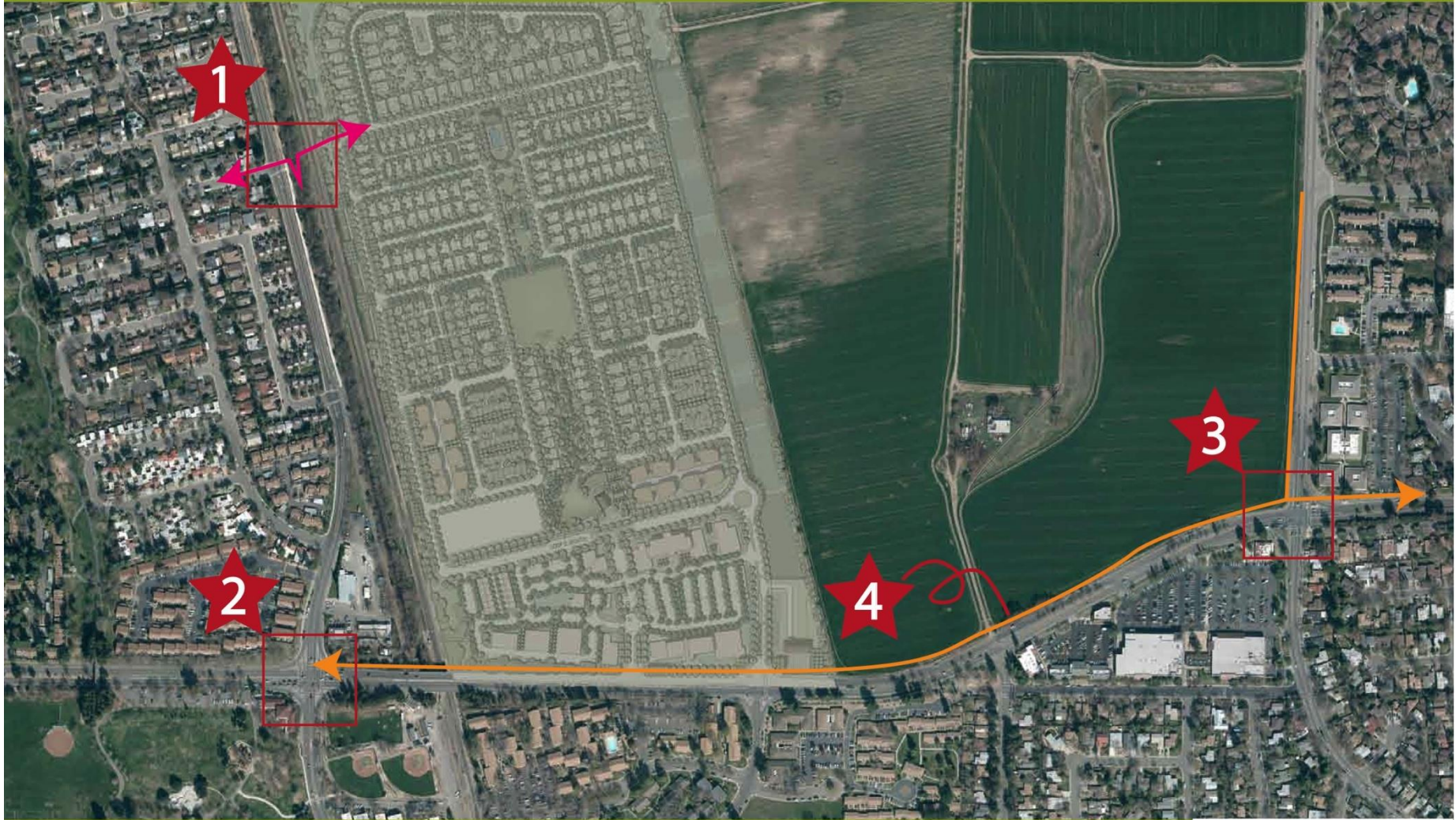
WOW

Long-term and enhanced design solutions

Design solutions: WOW



Design solutions - WOW



- Measure 1 - Railway overpath connecting to greenways
- Measure 2 - Safe intersection at E.Covell Blvd / F street
- Measure 3 - Safe intersection at E.covell Blvd / Pole Line Road
- Measure 4 - Two way cycle path on northside

0 0,5 1 mile



- Greenway routes through parks make up for excellent cycling experience
- The Cannery is in need of a 'back door' exit for bicycles and pedestrians.
- An overpass (cycle bridge) over the railway, connecting to the cycle path which ends at F-Street / Faro provided this missing link.
- This route connects to Covell Park and beyond.
- Study area end with the Cannery, but bridge could be build further north

East Covell Bd. and F St. intersection



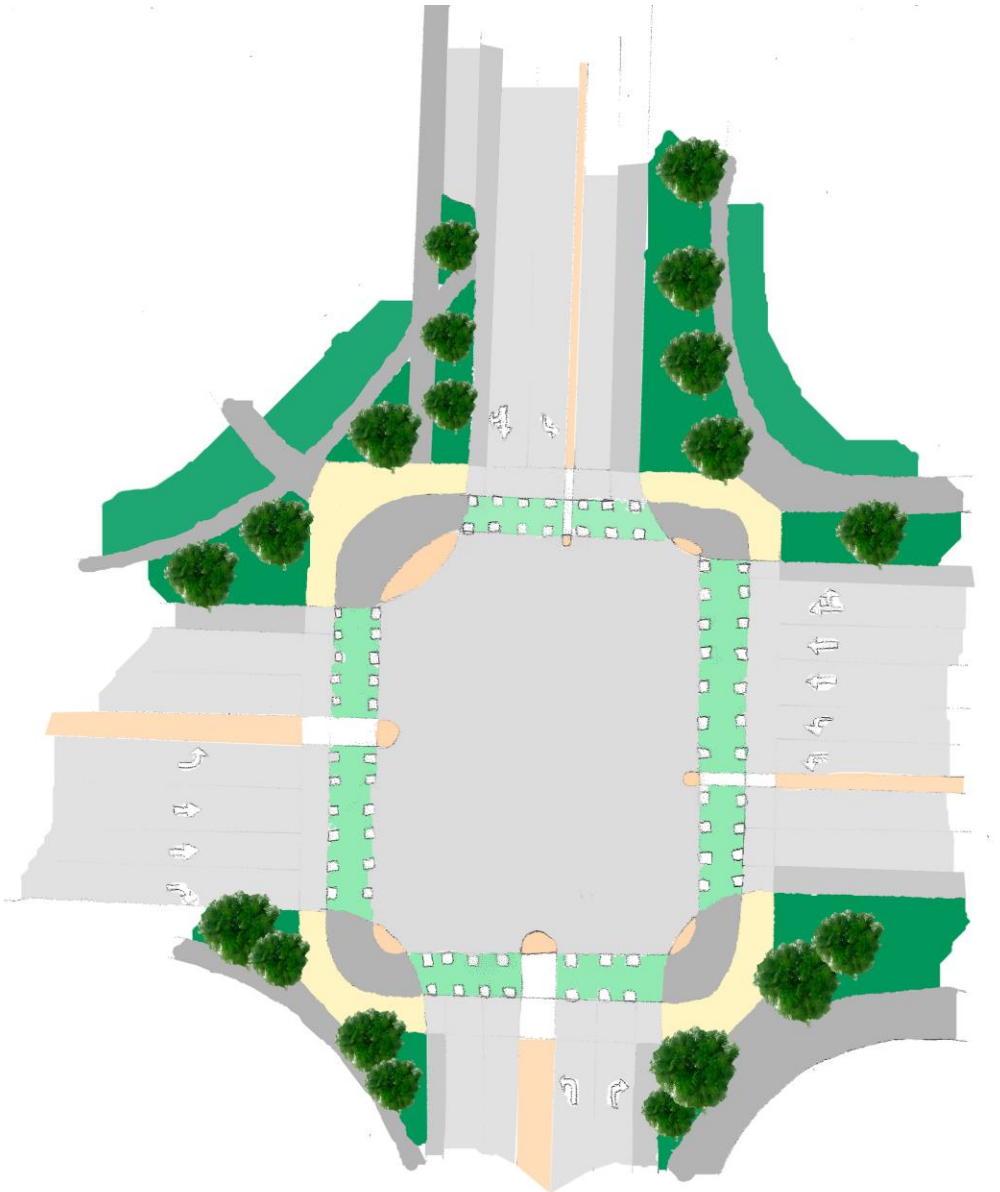
- Busy intersection without safe crossing possibilities for cyclists and pedestrians
- Designed for car and car flow
- Demand for better and safer bicycle infrastructure asks reconfiguration

East Covell Bd. and F St. intersection



- 'Dutch' type of intersection with traffic lights
- Cyclists pedestrians cross side streets perpendicular, with separate cycle light
- Buffer location cyclists and pedestrians is protected by shoulder in the corners
- Cyclists and pedestrians cross slightly further back in the side street, cars can make an emergency stop
- Left turn in two safe steps
- No free right turn possible (potential conflicts)

East Covell Bd. and F St. intersection



- 'Dutch' type of intersection with traffic lights
- Cyclists pedestrians cross side streets perpendicular, with separate cycle light
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East Covell Bd. and Pole Line Rd. intersection



Problem:

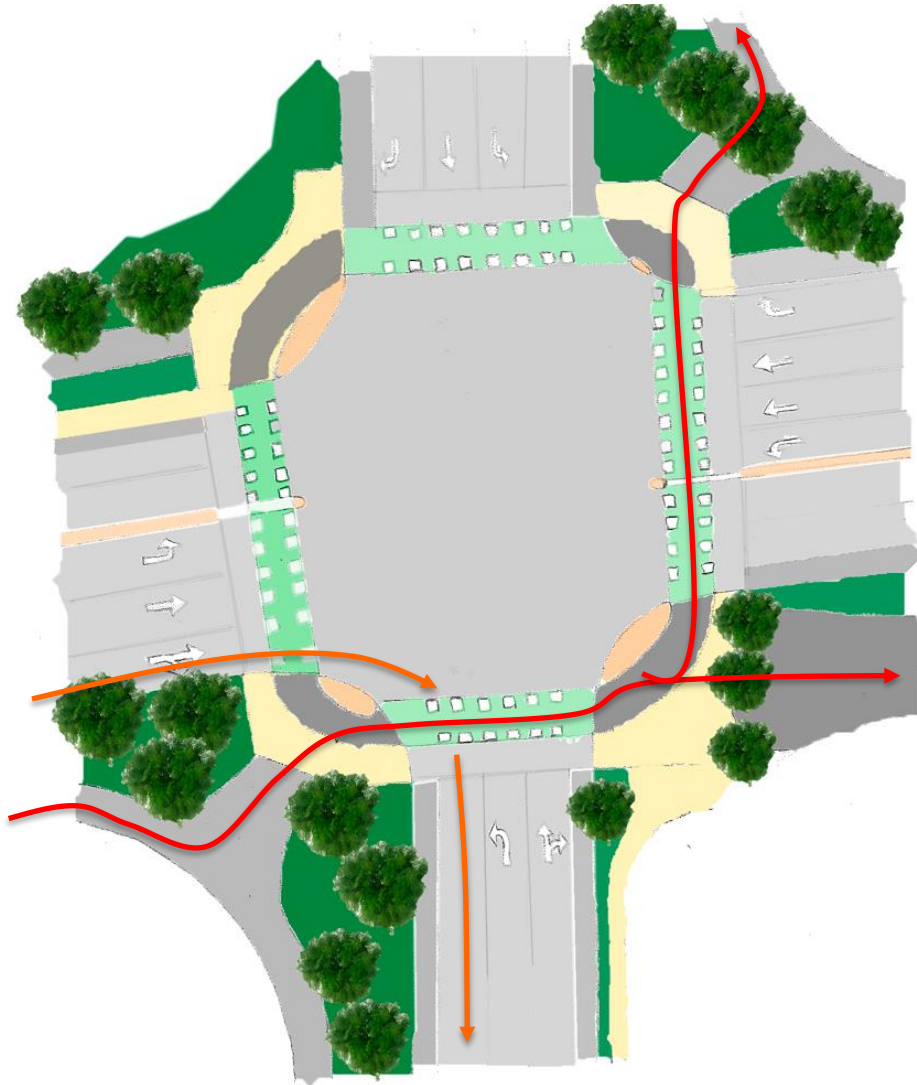
- The busiest intersection of Davis
- Many lanes including left and right turning boxes, make crossing safely difficult
- Safe bicycle routes east west and north south are desired

East Covell Bd. and Pole Line Rd. intersection



- 'Dutch' type of intersection with traffic lights
- Cyclists pedestrians cross side streets perpendicular, with separate cycle light
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East Covell Bd. and Pole Line Rd. intersection



East Covell Bd. two-way cycle track (North)



- To eliminate crossings over E. Covell Blvd. it is important to create good cycle facilities on the north side of the boulevard as well
- A two-way bike path on the north side (10 ft wide) would eliminate the need to right the bike lane for cyclists who desire more protection
- At E. Covell Blvd. bridge this path merges with the bike lane, protected from the road by a narrow shoulder
- This path runs from F Street to Pole Line Road, and continues to Birch Lane and up along Pole Line Road to Donner Ave.



CONCLUSIONS



- Davis currently has relatively superb cycling conditions already.
 - The scale of the town is cyclable (radius of 3 miles covers most)
 - Existing cycling infrastructure at the bigger streets and roads (though a lot is bike lane)
 - Large residential areas in between these bigger roads which are quieter (though still higher than 20 mls speed limit and wide roads)
- From a Dutch perspective, these are excellent conditions to enhance the cycling conditions even more.
- Three target groups for cycling have different desires for cycling infrastructure.
 - Schoolchildren need at least one conflict free cycle route to and from the Cannery
 - Commuters / Students need at least one direct and fast cycle route to and from the Cannery
 - Leisure and recreational cyclists would like a scenic, attractive route. This can also function as the secondary cycle access point (back door)



- With this in mind, there are immediate solutions (Now), and longer term solutions (Wow).

Now:

1. Grade separated crossing under E.Covell Blvd. bridge along railway to H Street tunnel, with widening the tunnel entrance at H Street side;
2. On grade crossing at intersection E. Covell Blvd. and J Street, minimal with safe, protected cycling crossing facilities, and optimally with a turbo-roundabout;
3. Existing shared path on south side of E. Covell Blvd. become a full two-way bike path, with sidewalks where needed;
4. Safe intersection at L Street and the driveways to Oak Tree Plaza

Wow:

1. Grade separated crossing over the railway connecting to F Street and the greenway to the Covell park;
2. New two-way cycle track on the north side of E. Covell Blvd. from F Street to Birch Lane and up Pole Line Road;
3. Safe intersection with protected cycle crossings at F Street and Pole Line Road;